

## WEST Search History

DATE: Friday, April 09, 2004

<u>Hide?</u>	<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>
	<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L5	L4 and carbaborane	4
<input type="checkbox"/>	L4	L3 and (phosphite or phosphonic or carbaborane)	985
<input type="checkbox"/>	L3	L2 and (pna or polynucleotide or oligonucleotide or nucleotide or nucleoside)	13167
	<i>DB=USPT; PLUR=YES; OP=ADJ</i>		
<input type="checkbox"/>	L2	(514/2,7,8,42,43,44;536/1.11,22.1,23.1,25.6,26.1,24.5 )[CCLS]	17454
<input type="checkbox"/>	L1	(514/2,7,8,42,43,44;536/1.11,22.1,23.1,25.6,26.1,24.5 )![CCLS]	17454

END OF SEARCH HISTORY

(FILE 'HOME' ENTERED AT 08:06:06 ON 09 APR 2004)

FILE 'REGISTRY' ENTERED AT 08:06:24 ON 09 APR 2004

L1 STRUCTURE UPLOADED

L2 13 S L1 SSS SAM

L3 1620 S L1 SSS FULL

FILE 'CAPLUS, MEDLINE, USPATFULL' ENTERED AT 08:07:23 ON 09 APR 2004

L4 389 S L3

L5 371 S L3 AND (NUCLEOBASE OR AMINO ACID OR PNA OR POLYNUCLEOTIDE OR O

FILE 'REGISTRY' ENTERED AT 08:17:01 ON 09 APR 2004

L6 STRUCTURE UPLOADED

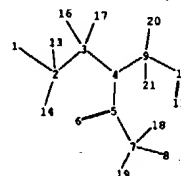
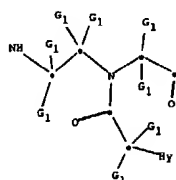
L7 1620 S L6 SSS FULL

FILE 'CAPLUS, MEDLINE, USPATFULL' ENTERED AT 08:17:48 ON 09 APR 2004

L8 389 S L7

L9 354 S L8 AND (PNA OR POLYNUCLEOTIDE OR OLIGONUCLEOTIDE OR NUCLEOTI

L10 23 S L9 AND (PHOSPHITE OR PHOSPHONIC OR CARBABORANE)



chain nodes :

1 2 3 4 5 6 7 8 9 10 11 13 14 16 17 18 19 20 21

chain bonds :

1-2 2-3 2-13 2-14 3-4 3-16 3-17 4-5 4-9 5-6 5-7 7-8 7-18 7-19 9-10 9-20  
9-21 10-11

exact/norm bonds :

1-2 2-13 2-14 3-4 3-16 3-17 4-5 4-9 5-6 7-8 7-18 7-19 9-20 9-21 10-11

exact bonds :

2-3 5-7 9-10

G1:H,Ak

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:Atom 9:CLASS 10:CLASS  
11:CLASS 13:CLASS 14:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS 21:CLASS

10 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:628164 CAPLUS

DOCUMENT NUMBER: 133:177496

TITLE: Preparation of substituted monomers for synthesis of  
PNAs containing carborane or phosphate side-chains  
for use in cancer therapy

INVENTOR(S): Bock, Holger; Lindhorst, Thomas

PATENT ASSIGNEE(S): Ugichem Gmbh, Germany

SOURCE: PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000052038	A1	20000908	WO 2000-EP1852	20000303
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
DE 19909373	A1	20001005	DE 1999-19909373	19990303
EP 1157031	A1	20011128	EP 2000-912543	20000303
EP 1157031	B1	20031217		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
JP 2002541068	T2	20021203	JP 2000-602262	20000303
AU 768340	B2	20031211	AU 2000-34268	20000303
AT 256701	E	20040115	AT 2000-912543	20000303
PRIORITY APPLN. INFO.:			DE 1999-19909373 A	19990303
			WO 2000-EP1852 W	20000303
OTHER SOURCE(S):	MARPAT 133:177496			
GI				

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to novel oligomers, containing PNA units substituted by phosphonic acid ester, phosphonic acid or carborane functions, and the PNA monomers from which the novel oligomers are produced, for use in cancer therapy as boron neutron capture agents (no data). Thus, N4-benzyloxycarbonylcytocylinyl acetic acid, 1,2-dicarbadoecaborane(12)-1-acetaldehyde, N-butoxycarbonylethylenediamine, and 2-isocyano-2,2-(dimethyl)ethyl carbonic acid Ph ester were reacted to give (I; R = (CH<sub>3</sub>)<sub>3</sub>COC(O); R<sub>1</sub> = PhCH<sub>2</sub>OC(O); R<sub>2</sub> = C<sub>2</sub>B<sub>10</sub>H<sub>10</sub>; R<sub>3</sub> = OH); similarly prepared were I, R, R<sub>1</sub>, R<sub>3</sub> as given; R<sub>2</sub> = P(O)(OEt)<sub>2</sub> (II) and I, R, R<sub>1</sub> as given, R<sub>2</sub> = C<sub>2</sub>B<sub>10</sub>H<sub>10</sub>; R<sub>3</sub> = polymer support (III). Using an automated synthesis routine, and monomers I, II, and III, trimer IV was synthesized.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2004:72655 USPATFULL

TITLE: Peptide nucleic acid synthons

INVENTOR(S): Buchardt, Ole, S.o slashed.nderg.ang.rdsvej 73, 3500

V.ae butted.rl.o slashed.se, DENMARK  
 Egholm, Michael, Sindshvilevej 5, 3. tv., 2000  
 Frederiksberg, DENMARK  
 Nielsen, Peter Eigil, Hjortev.ae butted.nget 509, 2980  
 Kokkedal, DENMARK  
 Berg, Rolf Henrik, Langelandsvej 20 B, 3. tv., 2000  
 Fredericksberg, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6710163	B1	20040323
APPLICATION INFO.:	US 1995-468719		19950606 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 108591, now patented, Pat. No. US 6395474		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Marschel, Ardin H.	
LEGAL REPRESENTATIVE:	Woodcock Washburn LLP	
NUMBER OF CLAIMS:	58	
EXEMPLARY CLAIM:	45	
NUMBER OF DRAWINGS:	36 Drawing Figure(s); 31 Drawing Page(s)	
LINE COUNT:	5240	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind complementary ssDNA and RNA strands more strongly than a corresponding DNA. The peptide nucleic acids generally comprise ligands such as naturally occurring DNA bases attached to a peptide backbone through a suitable linker.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 3 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2003:330144 USPATFULL  
 TITLE: Double-stranded peptide nucleic acids  
 INVENTOR(S): Norden, Benget, Vastra Frolunda, SWEDEN  
 Wittung, Pernilla, Goteborg, SWEDEN  
 Buchardt, Ole, Vaerloose, DENMARK  
 Egholm, Michael, Fredriksberg, DENMARK  
 Nielsen, Peter E., Kokkedal, DENMARK  
 Berg, Rolf, Rungsted Kyst, DENMARK  
 PATENT ASSIGNEE(S): ISIS Pharmaceuticals, Inc. (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003232355	A1	20031218
APPLICATION INFO.:	US 2003-348246	A1	20030121 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 2000-610624, filed on 5 Jul 2000, GRANTED, Pat. No. US 6267427 Division of Ser. No. US 1993-88661, filed on 2 Jul 1993, GRANTED, Pat. No. US 6228982 Continuation-in-part of Ser. No. US 1993-54363, filed on 26 Apr 1993, GRANTED, Pat. No. US 5539082 Continuation-in-part of Ser. No. WO 1992-EP1219, filed on 19 May 1992, UNKNOWN		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	WOODCOCK WASHBURN LLP, ONE LIBERTY PLACE - 46TH FLOOR, PHILADELPHIA, PA, 19103		
NUMBER OF CLAIMS:	34		

EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 3 Drawing Page(s)  
LINE COUNT: 950

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, form double-stranded structures with one another and with ssDNA. The peptide nucleic acids generally comprise ligands such as naturally occurring DNA bases attached to a peptide backbone through a suitable linker.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 4 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2003:321567 USPATFULL  
TITLE: Non-aggregating, non-quenching oligomers comprising nucleotide analogues; methods of synthesis and use thereof  
INVENTOR(S): Gall, Alexander A., Bothell, WA, United States  
Kutyavin, Igor V., Bothell, WA, United States  
Vermeulen, Nicolaas M. J., Woodinville, WA, United States  
PATENT ASSIGNEE(S): Dempcy, Robert O., Kirkland, WA, United States  
Epoch Biosciences, Inc., Bothell, WA, United States  
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6660845	B1	20031209
APPLICATION INFO.:	US 1999-447936		19991123 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Riley, Jezia		
LEGAL REPRESENTATIVE:	Townsend and Townsend and Crew LLP		
NUMBER OF CLAIMS:	55		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	1580		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides compositions and methods for improved hybridization analysis utilizing DNA, RNA, PNA and chimeric oligomers in which one or more purine bases are substituted by a pyrazolo[5,4-d]pyrimidine or by a 7-deazapurine purine analogue. Reduced self-aggregation and reduced fluorescence quenching are obtained when the oligomers are used in various methods involving hybridization. Methods of synthesis, as well as novel synthetic precursors, are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 5 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2003:257683 USPATFULL  
TITLE: Peptide nucleic acids  
INVENTOR(S): Buchardt, Ole, Vaerloose, DENMARK  
Egholm, Michael, Frederiksberg, DENMARK  
Nielsen, Peter Eigil, Kokkedal, DENMARK  
Berg, Rolf Henrik, Fredericksberg, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003180734	A1	20030925
APPLICATION INFO.:	US 2002-154890	A1	20020523 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1993-108591, filed on 22 Nov 1993, GRANTED, Pat. No. US 6395474		

NUMBER	DATE
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 PRIORITY INFORMATION: DK 1991-986 19910524  
 DK 1991-987 19910524  
 DK 1992-510 19920415  
 DOCUMENT TYPE: Utility  
 FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: WOODCOCK WASHBURN LLP, ONE LIBERTY PLACE - 46TH FLOOR,  
 PHILADELPHIA, PA, 19103  
 NUMBER OF CLAIMS: 34  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 30 Drawing Page(s)  
 LINE COUNT: 5256

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind complementary ssDNA and RNA strands more strongly than a corresponding DNA. The peptide nucleic acids generally comprise ligands such as naturally occurring DNA bases attached to a peptide backbone through a suitable linker.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 6 OF 23 USPATFULL on STN  
 ACCESSION NUMBER: 2003:234832 USPATFULL  
 TITLE: Peptide nucleic acids having 2,6-diaminopurine nucleobases  
 INVENTOR(S): Buchardt, Ole, late of V.ae butted.rl.o slashed.se, DENMARK deceased  
 Mrs. Dorte Buchardt, United States legal representative  
 Egholm, Michael, Lexington, MA, United States  
 Nielsen, Peter Eigil, Kokkedal, DENMARK  
 Berg, Rolf Henrik, Kyst, DENMARK  
 PATENT ASSIGNEE(S): ISIS Pharmaceuticals, Inc., Carlsbad, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6613873	B1	20030902
APPLICATION INFO.:	US 1999-337304		19990621 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-847110, filed on 1 May 1997, now abandoned Division of Ser. No. US 1996-686114, filed on 24 Jul 1996, now patented, Pat. No. US 6414112 Continuation-in-part of Ser. No. US 1993-108591, filed on 22 Nov 1993, now patented, Pat. No. US 6395474		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-987	19910524
	DK 1991-986	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Marschel, Ardin H.	
LEGAL REPRESENTATIVE:	Woodcock Washburn LLP	
NUMBER OF CLAIMS:	23	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 11 Drawing Page(s)	
LINE COUNT:	4342	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind complementary DNA and RNA strands more strongly than a corresponding DNA strand, and exhibit increased sequence specificity and binding affinity. The peptide nucleic acids of the invention comprise ligands selected

from a group consisting of naturally-occurring nucleobases and non-naturally-occurring nucleobases attached to a polyamide backbone. Some PNAs of the invention also contain C.sub.1-C.sub.8 alkylamine side chains.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 7 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2003:228309 USPATFULL  
TITLE: Modulation of cellular transcription factor activity  
INVENTOR(S): Norden, Benget, Vastra Frolunda, SWEDEN  
Wittung, Pernilla, Gothenburg, SWEDEN  
Bucharadt, Ole, Vaerloose, DENMARK  
Egholm, Michael, Fredriksberg, DENMARK  
Nielsen, Peter E., Hjortevanget 509, DK 2980 Kokkedal, DENMARK  
Berg, Rolf, Rungsted Kyst, DENMARK  
PATENT ASSIGNEE(S): Nielsen, Peter E., DENMARK (non-U.S. individual)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6610650	B1	20030826
APPLICATION INFO.:	US 2000-610264		20000706 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1993-88661, filed on 2 Jul 1993, now patented, Pat. No. US 6228982 Continuation-in-part of Ser. No. US 1993-54363, filed on 26 Apr 1993, now patented, Pat. No. US 5539082 Continuation-in-part of Ser. No. WO 1992-EP1219, filed on 19 May 1992		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Marschel, Ardin H.		
LEGAL REPRESENTATIVE:	Woodcock Washburn LLP		
NUMBER OF CLAIMS:	6		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	3 Drawing Figure(s); 3 Drawing Page(s)		
LINE COUNT:	814		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, form double-stranded structures with one another and with ssDNA. The peptide nucleic acids generally comprise ligands such as naturally occurring DNA bases attached to a peptide backbone through a suitable linker.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 8 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2002:287520 USPATFULL  
TITLE: Use of nucleic acid analogues in diagnostics and analytical procedures  
INVENTOR(S): Bucharadt, Ole, Vaerloose, DENMARK  
Egholm, Michael, Fredericksberg, DENMARK  
Nielsen, Peter E., Kokkedal, DENMARK  
Berg, Rolf H., Fredericksberg, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002160383	A1	20021031
APPLICATION INFO.:	US 2001-983210	A1	20011023 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-150156, filed on 4 May 1994, GRANTED, Pat. No. US 6357163 A 371 of International Ser. No. WO 1992-EP1220, filed on 22 May 1992, UNKNOWN		

NUMBER	DATE
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PRIORITY INFORMATION: DK 1991-986 19910524  
 DK 1991-987 19910524  
 DK 1992-510 19920415

DOCUMENT TYPE: Utility  
 FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: PILLSBURY WINTHROP, LLP, P.O. BOX 10500, MCLEAN, VA,  
 22102

NUMBER OF CLAIMS: 26  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 33 Drawing Page(s)  
 LINE COUNT: 3902

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention pertains to certain nucleic acid analogs and  
 related kits that are useful for the capture, recognition, detection,  
 identification, or quantification of certain chemical or biological  
 entities.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 9 OF 23 USPATFULL on STN  
 ACCESSION NUMBER: 2002:265842 USPATFULL  
 TITLE: Peptide nucleic acids having 2,6-diaminopurine  
 nucleobases  
 INVENTOR(S): Buchardt, Ole, Vaerloose, DENMARK  
 Egholm, Michael, Lexington, MA, UNITED STATES  
 Nielsen, Peter Eigil, Kokkedal, DENMARK  
 Berg, Rolf Henrik, Kyst, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002146718	A1	20021010
APPLICATION INFO.:	US 2001-955410	A1	20010918 (9)
RELATED APPLN. INFO.:	Division of Ser. No. US 1996-686114, filed on 24 Jul 1996, PENDING Continuation-in-part of Ser. No. US 1993-108591, filed on 22 Nov 1993, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Woodcock Washburn Kurtz, MacKiewicz & Norris LLP, 46th Floor, One Liberty Place, Philadelphia, PA, 19103	
NUMBER OF CLAIMS:	24	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	31 Drawing Page(s)	
LINE COUNT:	3862	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind  
 complementary DNA and RNA strands more strongly than a corresponding DNA  
 strand, and exhibit increased sequence specificity and binding affinity.  
 The peptide nucleic acids of the invention comprise ligands selected  
 from a group consisting of naturally-occurring nucleobases and  
 non-naturally-occurring nucleobases attached to a polyamide backbone.  
 Some PNAs of the invention also contain C.sub.1-C.sub.8  
 alkylamine side chains.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 10 OF 23 USPATFULL on STN  
 ACCESSION NUMBER: 2002:239146 USPATFULL

TITLE: Peptide nucleic acids  
 INVENTOR(S): Egholm, Michael, Lexington, MA, United States  
 Nielsen, Peter, Kokkedal, DENMARK  
 Buchardt, Ole, late of Vaerlose, DENMARK deceased  
 Dorte Buchardt, United States heir  
 Dueholm, Kim L., Kokkedal, DENMARK  
 Christensen, Leif, Valby, DENMARK  
 Coull, James M., Westford, MA, United States  
 Kiely, John, San Diego, CA, United States  
 Griffith, Michael, San Diego, CA, United States  
 PATENT ASSIGNEE(S): ISIS Pharmaceuticals, Inc., Carlsbad, CA, United States  
 (U.S. corporation)  
 Perseptive Biosystems, Inc., Framingham, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6451968	B1	20020917
APPLICATION INFO.:	US 1994-275951		19940715 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 108591		
	Continuation-in-part of Ser. No. US 1993-88658, filed on 2 Jul 1993, now patented, Pat. No. US 5641625		
	Continuation-in-part of Ser. No. US 1993-88661, filed on 2 Jul 1993, now patented, Pat. No. US 6228982		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Marschel, Ardin H.	
LEGAL REPRESENTATIVE:	Woodcock Washburn LLP	
NUMBER OF CLAIMS:	26	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 4 Drawing Page(s)	
LINE COUNT:	4160	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Novel peptide nucleic acids and novel linked peptide nucleic acids, form triple stranded structures with nucleic acids. The peptide nucleic acids include ligands such as naturally occurring nucleobases attached to a peptide backbone through a suitable linker. Other nucleobases including C-pyrimidines and iso-pyrimidines can be used as the ligands in Hoogsteen strands to increase binding affinity. Two peptide nucleic acid strands are joined together with a linker to form a bis-peptide nucleic acid. The individual strands of the peptide nucleic acids in the bis compounds can be orientated either parallel or antiparallel to each other.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 11 OF 23 USPATFULL on STN  
 ACCESSION NUMBER: 2002:217382 USPATFULL  
 TITLE: Linked peptide nucleic acids  
 INVENTOR(S): Egholm, Michael, Lexington, MA, United States  
 Nielsen, Peter, Kokkedal, DENMARK  
 Buchardt, Ole, late of Vaerlose, DENMARK deceased by D.  
 Buchardt, Representative  
 Dueholm, Kim L., Kokkedal, DENMARK  
 Christensen, Leif, Holbaek, DENMARK  
 Coull, James M., Westford, MA, United States  
 Kiely, John, San Diego, CA, United States  
 Griffith, Michael, San Diego, CA, United States

PATENT ASSIGNEE(S): ISIS Pharmaceuticals, Inc., Carlsbad, CA, United States  
(U.S. corporation)  
PepSeptive Biosystems, Inc., Framingham, MA, United  
States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6441130	B1	20020827
	WO 9602558		19960201
APPLICATION INFO.:	US 1998-765798	19980628	(8)
	WO 1995-US9084	19950713	
		19970423	PCT 371 date
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1994-275951, filed on 15 Jul 1994 Continuation-in-part of Ser. No. US 108591 Continuation-in-part of Ser. No. US 1993-88658, filed on 2 Jul 1993, now patented, Pat. No. US 5641625 Continuation-in-part of Ser. No. US 1993-88661, filed on 2 Jul 1993, now patented, Pat. No. US 6228982		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Marschel, Ardin H.	
LEGAL REPRESENTATIVE:	Woodcock Washburn LLP	
NUMBER OF CLAIMS:	19	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 4 Drawing Page(s)	
LINE COUNT:	3910	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Novel peptide nucleic acids and novel linked peptide nucleic acids, form  
triple stranded structures with nucleic acids. The peptide nucleic acids  
include ligands such as naturally occurring nucleobases attached to the  
peptide backbone through a suitable linker. Other nucleobases including  
C-pyrimidines and iso-pyrimidines can be used as the ligands in  
Hoogsteen strands to increase binding affinity. Two peptide nucleic acid  
strands are joined together with a linker to form a bis-peptide nucleic  
acid. The individual strands of the peptide nucleic acids in the bis  
compounds can be oriented either parallel or antiparallel to each other.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 12 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2002:160842 USPATFULL

TITLE: Peptide nucleic acids having 2,6-diaminopurine  
nucleobases

INVENTOR(S): Buchardt, Ole, late of V.ae buttet.rl.o slashed.se,  
GERMANY, FEDERAL REPUBLIC OF deceased  
Buchardt, Dorte, S.o slashed.ndergÅrdsvej 73, 3500  
V.ae buttet.rl.o slashed.se, GERMANY, FEDERAL REPUBLIC  
OF legal representative  
Egholm, Michael, 1231 Lexington Ridge Dr., Lexington,  
MA, United States 02173  
Nielsen, Peter Eigil, Hjortev.ae buttet.nget 509, 2980  
Kokkedal, DENMARK  
Berg, Rolf Henrik, Strandvaenget 6, DK 2960 Rungsted  
Kyst, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6414112	B1	20020702

APPLICATION INFO.: US 1996-686114 19960724 (8)  
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1993-108591, filed  
on 22 Nov 1993

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Marschel, Ardin H.	
LEGAL REPRESENTATIVE:	Woodcock Washburn LLP	
NUMBER OF CLAIMS:	1	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 11 Drawing Page(s)	
LINE COUNT:	4581	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind complementary DNA and RNA strands more strongly than a corresponding DNA strand, and exhibit increased sequence specificity and binding affinity. The peptide nucleic acids of the invention comprise ligands selected from a group consisting of naturally-occurring nucleobases and non-naturally-occurring nucleobases attached to a polyamide backbone. Some PNAs of the invention also contain C.sub.1-C.sub.8 alkylamine side chains.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 13 OF 23 USPATFULL on STN  
ACCESSION NUMBER: 2002:133424 USPATFULL  
TITLE: METHODS OF USING A CHIMERIC NUCLEIC ACID/NUCLEIC ACID  
ANALOGUE MOLECULE  
INVENTOR(S): REEVE, MICHAEL A., HENLEY-ON-THAME, UNITED KINGDOM  
BROWN, TOM, SOUTHAMPTON, UNITED KINGDOM

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002068275	A1	20020606
APPLICATION INFO.:	US 1996-617781	A1	19960521 (8)
	WO 1994-GB2053		19940921

	NUMBER	DATE
PRIORITY INFORMATION:	EP 1993-307455	19930921
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	WENDEROTH LIND AND PONACK, 2033 K STREET NW, SUITE 800, WASHINGTON, DC, 20006	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	5 Drawing Page(s)	
LINE COUNT:	722	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Chimeric molecules of nucleic acid/nucleic acid analogue, comprising a nonstandard backboned portion and a standard backboned portion having a 3' end, useful as primers in reactions involving primer extension, such as nucleic acid amplification and sequencing.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 14 OF 23 USPATFULL on STN  
ACCESSION NUMBER: 2002:122423 USPATFULL  
TITLE: Peptide nucleic acids

INVENTOR(S): Buchardt, Ole, S.o slashed.nderg.ang.rdsvej 73, 3500  
V.ae buttet.rl.o slashed.se, DENMARK  
Egholm, Michael, Sindshvilevej 5, 3. tv., 2000  
Frederiksberg, DENMARK  
Nielsen, Peter Eigil, Hjortev.ae buttet.nget 509, 2980  
Kokkedal, DENMARK  
Berg, Rolf Henrik, Langelandsvej 20 B, 3. tv., 2000  
Fredericksberg, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6395474	B1	20020528
	WO 9220702		19921126
APPLICATION INFO.:	US 1993-108591		19931122 (8)
	WO 1992-EP1219		19920522
			19931122 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Marschel, Ardin H.	
LEGAL REPRESENTATIVE:	Woodcock Washburn LLP	
NUMBER OF CLAIMS:	12	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	36 Drawing Figure(s); 31 Drawing Page(s)	
LINE COUNT:	5049	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind complementary ssDNA and RNA strands more strongly than a corresponding DNA. The peptide nucleic acids generally comprise ligands such as naturally occurring DNA bases attached to a peptide backbone through a suitable linker.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 15 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2002:109173 USPATFULL

TITLE: Monomeric building blocks for labeling peptide nucleic acids

INVENTOR(S): Bergmann, Frank, Iffeldorf, GERMANY, FEDERAL REPUBLIC OF  
Herrmann, Rupert, Weilheim, GERMANY, FEDERAL REPUBLIC OF  
Seidel, Christoph, Weilheim, GERMANY, FEDERAL REPUBLIC OF  
Koch, Troels, Copenhagen S., DENMARK

PATENT ASSIGNEE(S): Dako A/S, Glostrup, DENMARK (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6388061	B1	20020514
	WO 9842735		19981001
APPLICATION INFO.:	US 2000-381301		20000114 (9)
	WO 1998-EP1723		19980324
			20000114 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DE 1997-19712530	19970325
DOCUMENT TYPE:	Utility	

FILE SEGMENT: GRANTED  
PRIMARY EXAMINER: Riley, Jezia  
LEGAL REPRESENTATIVE: Arent Fox Kintner Plotkin & Kahn  
NUMBER OF CLAIMS: 35  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 4 Drawing Page(s)  
LINE COUNT: 1044

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to novel monomeric building blocks for labeling peptide nucleic acids and similarly constructed nucleic acid-binding oligomers possessing groups which are coupled to a nitrogen base and/or to the peptide backbone of the peptide nucleic acid. The invention furthermore relates to peptide nucleic acids which contain at least one labelled monomeric building block.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 16 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2002:56147 USPATFULL

TITLE: Use of nucleic acid analogues in diagnostics and analytical procedures

INVENTOR(S): Buchardt, Ole, S.o slashed.ndergardsvej 73, 3500 V.ae  
butted.rl.o slashed.se, DENMARK  
Egholm, Michael, Sindshvilevej 5, 3. tv., 2000  
Fredericksberg, DENMARK  
Nielsen, Peter E., Hjortevaenget 509, 2980 Kokkedal,  
DENMARK  
Berg, Rolf H., Langelandsvej 20 B, 3. th., 2000  
Fredericksberg, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6357163	B1	20020319
	WO 9220703		19921126
APPLICATION INFO.:	US 1994-150156		19940504 (8)
	WO 1992-EP1220		19920522
			19940504 PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415

DOCUMENT TYPE: Utility

FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Whisenant, Ethan C.

LEGAL REPRESENTATIVE: Pillsbury Winthrop LLP

NUMBER OF CLAIMS: 15

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 38 Drawing Figure(s); 33 Drawing Page(s)

LINE COUNT: 3978

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods of capture, recognition, detection, identification or quantitation of nucleic acids and diagnostics uses generally are described in which are used: (a) a peptide nucleic acid (PNA) comprising a polyamide backbone bearing a plurality of ligands at respective spaced locations along said backbone, said ligands being each independently naturally occurring nucleobases, non-naturally occurring nucleobases or nucleobase-binding groups, each said ligand being bound directly or indirectly to a nitrogen atom in said backbone, and said ligand bearing nitrogen atoms mainly being separated from one another in said backbone by from 4 to 8 intervening atoms; or (b) a nucleic acid analogue capable of hybridizing to a nucleic acid of complementary sequence to form a hybrid which is more stable against denaturation by

heat than a hybrid between the conventional deoxyribonucleotide corresponding to said analogue and said nucleic acid; or (c) a nucleic acid analogue capable of hybridizing to a double stranded nucleic acid in which one strand has a sequence complementary to said analogue, so as to displace the other strand from said one strand.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 17 OF 23 USPATFULL on STN

ACCESSION NUMBER: 2001:67793 USPATFULL

TITLE: Double-stranded peptide nucleic acids

INVENTOR(S): Norden, Benget, Dorjeskaragatan 15, S-421 60 Vastra Frolunda, Sweden

Wittung, Pernilla, Djurgardsgatan 27, S-414 62

Gothenburg, Sweden

Buchardt, Ole, Sondergardsvej 73, DK 3500 Vaerloose, Denmark

Egholm, Michael, Johnstrup Alle, 3, DK 1923

Fredriksberg, Denmark

Nielsen, Peter E., Hjortevanget 509, DK 2980 Kokkedal, Denmark

Berg, Rolf, Strandvaenget 6, DK 2960 Rungsted Kyst, Denmark

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6228982	B1	20010508
APPLICATION INFO.:	US 1993-88661		19930702 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-54363, filed on 26 Apr 1993, now patented, Pat. No. US 5539082		
	Continuation-in-part of Ser. No. WO 1992-EP1219, filed on 22 May 1992		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Marschel, Ardin H.		
LEGAL REPRESENTATIVE:	Woodcock Washburn Kurtz Mackiewicz & Norris LLP		
NUMBER OF CLAIMS:	14		
EXEMPLARY CLAIM:	9		
NUMBER OF DRAWINGS:	20 Drawing Figure(s); 3 Drawing Page(s)		
LINE COUNT:	4722		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, form double-stranded structures with one another and with ssDNA. The peptide nucleic acids generally comprise ligands such as naturally occurring DNA bases attached to a peptide backbone through a suitable linker.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 18 OF 23 USPATFULL on STN

ACCESSION NUMBER: 1998:88940 USPATFULL

TITLE: Peptide nucleic acids having amino acid side chains

INVENTOR(S): Buchardt, deceased, Ole, late of V.ae butted.rl.o slashed.se, Denmark

Egholm, Michael, 1231 Lexington Ridge Dr., Lexington, MA, United States 02173

Nielsen, Peter Eigil, Hjortev.ae butted.nget 509, 2980 Kokkedal, Denmark

Berg, Rolf Henrik, Strandvaenget 6, DK 2960 Rungsted Kyst, Denmark

Buchardt, Dorte, S.o slashed.nderg.ang.rdsvej 73, 3500

V.ae butted.rl.o slashed.se, Denmark legal representative of said Ole Buchardt, deceased

NUMBER	KIND	DATE
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PATENT INFORMATION: US 5786461 19980728  
 APPLICATION INFO.: US 1997-847095 19970501 (8)  
 RELATED APPLN. INFO.: Division of Ser. No. US 1996-685484, filed on 24 Jul 1996 which is a continuation-in-part of Ser. No. US 1993-108591, filed on 22 Nov 1993

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Marschel, Ardin H.	
LEGAL REPRESENTATIVE:	Woodcock Washburn Kurtz Mackiewicz & Norris LLP	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 11 Drawing Page(s)	
LINE COUNT:	4640	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind complementary DNA and RNA strands more strongly than the corresponding DNA or RNA strands, and exhibit increased sequence specificity and solubility. The peptide nucleic acids comprise ligands selected from a group consisting of naturally-occurring nucleobases and non-naturally-occurring nucleobases attached to a polyamide backbone, and contain alkylamine side chains.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 19 OF 23 USPATFULL on STN  
 ACCESSION NUMBER: 1998:68782 USPATFULL  
 TITLE: Peptide nucleic acids having enhanced binding affinity and sequence specificity  
 INVENTOR(S): Buchardt, deceased, Ole, late of 3500 V.ae butted.rl.o slashed.se, Denmark  
 Egholm, Michael, 1231 Lexington Ridge Dr., Lexington, MA, United States 02173  
 Nielsen, Peter Eigil, Hjortev.ae butted.nget 509, 2980 Kokkedal, Denmark  
 Berg, Rolf Henrik, Strandvaenget 6, DK 2960 Rungsted Kyst, Denmark  
 Buchardt, executor, by Dorte, S.o slashed.nderg.ang.rdsvej 73, 3500 V.ae butted.rl.o slashed.se, Germany, Federal Republic of

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5766855		19980616
APPLICATION INFO.:	US 1996-686113		19960724 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-108591, filed on 22 Nov 1993		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Marschel, Ardin H.	
LEGAL REPRESENTATIVE:	Woodcock Washburn Kurtz Mackiewicz & Norris	
NUMBER OF CLAIMS:	24	



EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 11 Drawing Page(s)  
LINE COUNT: 4740

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind complementary DNA and RNA strands more strongly than a corresponding DNA strand, and exhibit increased sequence specificity and binding affinity. Methods of increasing binding affinity and sequence specificity of peptide nucleic acids are provided wherein some peptide nucleic acids comprise ligands selected from a group consisting of naturally-occurring nucleobases and non-naturally-occurring nucleobases attached to a polyamide backbone, while other peptide nucleic acids contain at least one 2,6-diaminopurine nucleobase and at least one C.sub.1 -C.sub.8 alkylamine side chain.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 20 OF 23 USPATFULL on STN

ACCESSION NUMBER: 1998:36547 USPATFULL  
TITLE: Peptide nucleic acids having enhanced binding affinity, sequence specificity and solubility  
INVENTOR(S): Buchardt, deceased, Ole, late of V.ae buttet.rl.o  
slashed.se, Denmark  
Buchardt, representative, by Dorte, S.o  
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Egholm, Michael, 1231 Lexington Ridge Dr., Lexington,  
MA, United States 02173  
Nielsen, Peter Eigil, Hjortev.ae buttet.nget 509, 2980  
Kokkedal, Denmark  
Berg, Rolf Henrik, Strandvaenget 6, DK 2960 Rungsted  
Kyst, Denmark

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5736336		19980407
APPLICATION INFO.:	US 1997-847108		19970501 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1996-686116, filed on 24 Jul 1996 which is a continuation-in-part of Ser. No. US 1993-108591, filed on 22 Nov 1993		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415

DOCUMENT TYPE: Utility  
FILE SEGMENT: Granted  
PRIMARY EXAMINER: Marschel, Ardin H.  
LEGAL REPRESENTATIVE: Woodcock Washburn Kurtz Mackiewicz & Norris LLP  
NUMBER OF CLAIMS: 20  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 11 Drawing Page(s)  
LINE COUNT: 4677

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind complementary DNA and RNA strands more strongly than a corresponding DNA strand, and exhibit increased sequence specificity and solubility. The peptide nucleic acids comprise ligands selected from a group consisting of naturally-occurring nucleobases and non-naturally-occurring nucleobases attached to a polyamide backbone, and contain C.sub.1 -C.sub.8 alkylamine side chains. Methods of enhancing the solubility, binding affinity and sequence specificity of PNAs are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 21 OF 23 USPATFULL on STN

ACCESSION NUMBER: 1998:17422 USPATFULL  
TITLE: Peptide nucleic acids having amino acid side chains  
INVENTOR(S): Buchardt, deceased, Ole, late of V.ae butted.rl.o  
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Buchardt, legal representative, by Dorte, S.o  
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slashed.se, Denmark  
Egholm, Michael, 1231 Lexington Ridge Dr., Lexington,  
MA, United States 02173  
Nielsen, Peter Eigil, Hjortev.ae butted.nget 509, 2980  
Kokkedal, Denmark  
Berg, Rolf Henrik, Strandvaenget 6, DK 2960 Rungsted  
Kyst, Denmark

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5719262		19980217
APPLICATION INFO.:	US 1996-685484		19960724 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-108591, filed on 22 Nov 1993		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Marschel, Ardin H.		
LEGAL REPRESENTATIVE:	Woodcock Washburn Kurtz Mackiewicz & Norris LLP		
NUMBER OF CLAIMS:	11		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 11 Drawing Page(s)		
LINE COUNT:	4619		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind  
complementary DNA and RNA strands more strongly than the corresponding  
DNA or RNA strands, and exhibit increased sequence specificity and  
solubility. The peptide nucleic acids comprise ligands selected from a  
group consisting of naturally-occurring nucleobases and  
non-naturally-occurring nucleobases attached to a polyamide backbone,  
and contain alkylamine side chains.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 22 OF 23 USPATFULL on STN

ACCESSION NUMBER: 1998:11880 USPATFULL  
TITLE: Peptide nucleic acids having enhanced binding affinity,  
sequence specificity and solubility  
INVENTOR(S): Buchardt, deceased, Ole, late of V.ae butted.rl.o  
slashed.se, Denmark  
Buchardt, representative, by Dorte, S.o  
slashed.ndergArdsvej 73, 3500 V.ae butted.l.o  
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Egholm, Michael, 1231 Lexington Ridge Dr., Lexington,  
MA, United States 02173  
Nielsen, Peter Eigil, Hjortev.ae butted.nget 509, 2980  
Kokkedal, Denmark  
Berg, Rolf Henrik, Strandvaenget 6, DK 2960 Rungsted  
Kyst, Denmark

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5714331		19980203
APPLICATION INFO.:	US 1996-686116		19960724 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-108591, filed		

on 22 Nov 1993

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1991-986	19910524
	DK 1991-987	19910524
	DK 1992-510	19920415
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Marschel, Ardin H.	
LEGAL REPRESENTATIVE:	Woodcock Washburn Kurtz Mackiewicz & Norris LLP	
NUMBER OF CLAIMS:	10	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 11 Drawing Page(s)	
LINE COUNT:	4627	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A novel class of compounds, known as peptide nucleic acids, bind complementary DNA and RNA strands more strongly than a corresponding DNA strand, and exhibit increased sequence specificity and solubility. The peptide nucleic acids comprise ligands selected from a group consisting of naturally-occurring nucleobases and non-naturally-occurring nucleobases attached to a polyamide backbone, and contain C.sub.1 -C.sub.8 alkylamine side chains. Methods of enhancing the solubility, binding affinity and sequence specificity of PNAs are provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 23 OF 23 USPATFULL on STN

ACCESSION NUMBER:	97:120732 USPATFULL
TITLE:	PNA-DNA-PNA chimeric macromolecules
INVENTOR(S):	Cook, Phillip Dan, Carlsbad, CA, United States
PATENT ASSIGNEE(S):	Isis Pharmaceuticals, Inc., Carlsbad, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5700922		19971223
APPLICATION INFO.:	US 1993-158352		19931124 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1991-814961, filed on 24 Dec 1991, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Low, Christopher S. F.		
LEGAL REPRESENTATIVE:	Woodcock Washburn Kurtz Mackiewicz & Norris LLP		
NUMBER OF CLAIMS:	23		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Figure(s); 6 Drawing Page(s)		
LINE COUNT:	1938		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Macromolecules are provided that have increased nuclease resistance, increasing binding affinity to a complementary strand, and that activate RNase H enzyme. The macromolecules have the structure PNA-DNA-PNA where the DNA portion is composed of subunits of 2'-deoxy-erythro-pentofuranosyl nucleotides and the PNA portions are composed of subunits of peptide nucleic acids. Such macromolecules are useful for diagnostics and other research purposes, for modulating protein in organisms, and for the diagnosis, detection and treatment of other conditions susceptible to therapeutics.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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